

## **RAW SEQUENCE LISTING**

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number: 09/643,579A  
Source: IFW/b  
Date Processed by STIC: 4/12/05

# ***ENTERED***

# CRF Errors Edited by the STIC Systems Branch

Serial Number: 09/643,579A

CRF Edit Date: 4/12/05  
Edited by: [signature]

\_\_\_ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

\_\_\_ Corrected the SEQ ID NO. Sequence numbers edited were:

[checkmark] Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

7

\_\_\_ Deleted: \_\_\_ invalid beginning/end-of-file text ; \_\_\_ page numbers

\_\_\_ Inserted mandatory headings/numeric identifiers, specifically:

\_\_\_ Moved responses to same line as heading/numeric identifier, specifically:

\_\_\_ Other:



4/12/05

IFW16

## RAW SEQUENCE LISTING

DATE: 04/14/2005

PATENT APPLICATION: US/09/643,579A

TIME: 11:19:51

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\04142005\I643579A.raw

4 <110> APPLICANT: Broglie, Richard Martin  
 5 DeBonte, Lorin Roger  
 6 Hitz, William Dean  
 7 Miao, Guo-Hua  
 8 Reiter, Robert Stefan  
 10 <120> TITLE OF INVENTION: Methods For Increasing Oleic Acid  
 11 Content In Seeds From Transgenic Plants Containing A Mutant  
 12 Delta 12 Desaturase  
 14 <130> FILE REFERENCE: 07148-025003  
 16 <140> CURRENT APPLICATION NUMBER: US 09/643,579A  
 17 <141> CURRENT FILING DATE: 2000-08-22  
 19 <150> PRIOR APPLICATION NUMBER: US 09/232,948  
 20 <151> PRIOR FILING DATE: 1999-01-19  
 22 <150> PRIOR APPLICATION NUMBER: US 08/728,025  
 23 <151> PRIOR FILING DATE: 1996-10-09  
 25 <160> NUMBER OF SEQ ID NOS: 58  
 27 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 30 <210> SEQ ID NO: 1  
 31 <211> LENGTH: 1464  
 32 <212> TYPE: DNA  
 33 <213> ORGANISM: Brassica napus  
 35 <220> FEATURE:  
 36 <221> NAME/KEY: CDS  
 37 <222> LOCATION: (130)..(1281)  
 39 <400> SEQUENCE: 1

C--> 40 ggcacgagct cgtgccgaat tcggcacgag aggagacaga gagagagttt gaggaggagc 60  
 42 ttcttcgtag ggttcacgtt tattaacggt aaatcttcat cccccctac gtcagccagc 120  
 44 tcaagaaac atg ggt gca ggt gga aga atg caa gtg tct cct ccc tcc 168  
 45 Met Gly Ala Gly Gly Arg Met Gln Val Ser Pro Pro Ser  
 46 1 5 10  
 48 aaa aag tct gaa acc gac aac atc aag cgc gta ccc tgc gag aca ccg 216  
 49 Lys Lys Ser Glu Thr Asp Asn Ile Lys Arg Val Pro Cys Glu Thr Pro  
 50 15 20 25  
 52 ccc ttc act gtc gga gaa ctc aag aaa gca atc cca ccg cac tgt ttc 264  
 53 Pro Phe Thr Val Gly Glu Leu Lys Lys Ala Ile Pro Pro His Cys Phe  
 54 30 35 40 45  
 56 aaa cgc tcg atc cct cgc tct ttc tcc tac ctc atc tgg gac atc atc 312  
 57 Lys Arg Ser Ile Pro Arg Ser Phe Ser Tyr Leu Ile Trp Asp Ile Ile  
 58 50 55 60  
 60 ata gcc tcc tgc ttc tac tac gtc gcc acc act tac ttc cct ctc ctc 360  
 61 Ile Ala Ser Cys Phe Tyr Tyr Val Ala Thr Thr Tyr Phe Pro Leu Leu  
 62 65 70 75  
 64 cct cac cct ctc tcc tac ttc gcc tgg cct ctc tac tgg gcc tgc cag 408

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```

65 Pro His Pro Leu Ser Tyr Phe Ala Trp Pro Leu Tyr Trp Ala Cys Gln
66      80      85      90
68 ggc tgc gtc cta acc ggc gtc tgg gtc ata gcc cac gag tgc ggc cac 456
69 Gly Cys Val Leu Thr Gly Val Trp Val Ile Ala His Glu Cys Gly His
70      95      100      105
72 cac gcc ttc agc gac tac cag tgg ctg gac gac acc gtc ggc ctc atc 504
73 His Ala Phe Ser Asp Tyr Gln Trp Leu Asp Asp Thr Val Gly Leu Ile
74 110      115      120      125
76 ttc cac tcc ttc ctc ctc gtc cct tac ttc tcc tgg aag tac agt cat 552
77 Phe His Ser Phe Leu Leu Val Pro Tyr Phe Ser Trp Lys Tyr Ser His
78      130      135      140
80 cga cgc cac cat tcc aac act ggc tcc ctc gag aga gac gaa gtg ttt 600
81 Arg Arg His His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe
82      145      150      155
86 gtc ccc aag aag aag tca gac atc aag tgg tac ggc aag tac ctc aac 648
87 Val Pro Lys Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn
88      160      165      170
90 aac cct ttg gga cgc acc gtg atg tta acg gtt cag ttc act ctc ggc 696
91 Asn Pro Leu Gly Arg Thr Val Met Leu Thr Val Gln Phe Thr Leu Gly
92      175      180      185
94 tgg cct ttg tac tta gcc ttc aac gtc tcg ggg aga cct tac gac ggc 744
95 Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly Arg Pro Tyr Asp Gly
96 190      195      200      205
98 ggc ttc gct tgc cat ttc cac ccc aac gct ccc atc tac aac gac cgt 792
99 Gly Phe Ala Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp Arg
100      210      215      220
102 gag cgt ctc cag ata tac atc tcc gac gct ggc atc ctc gcc gtc tgc 840
103 Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys
104      225      230      235
106 tac ggt ctc tac cgc tac gct gct gtc caa gga gtt gcc tcg atg gtc 888
107 Tyr Gly Leu Tyr Arg Tyr Ala Ala Val Gln Gly Val Ala Ser Met Val
108      240      245      250
110 tgc ttc tac gga gtt cct ctt ctg att gtc aac ggg ttc tta gtt ttg 936
111 Cys Phe Tyr Gly Val Pro Leu Ile Val Asn Gly Phe Leu Val Leu
112      255      260      265
114 atc act tac ttg cag cac acg cat cct tcc ctg cct cac tat gac tcg 984
115 Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu Pro His Tyr Asp Ser
116 270      275      280      285
118 tct gag tgg gat tgg ttg agg gga gct ttg gcc acc gtt gac aga gac 1032
119 Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Asp
120      290      295      300
122 tac gga atc ttg aac aag gtc ttc cac aat atc acg gac acg cac gtg 1080
123 Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val
124      305      310      315
126 gcg cat cac ctg ttc tcg acc atg ccg cat tat cat gcg atg gaa gct 1128
127 Ala His His Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala
128      320      325      330
130 acg aag gcg ata aag ccg ata ctg gga gag tat tat cag ttc gat ggg 1176
131 Thr Lys Ala Ile Lys Pro Ile Leu Gly Glu Tyr Tyr Gln Phe Asp Gly

```

## RAW SEQUENCE LISTING

DATE: 04/14/2005

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TIME: 11:19:51

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\04142005\I643579A.raw

```

132      335      340      345
134 acg ccg gtg gtt aag gcg atg tgg agg gag gcg aag gag tgt atc tat 1224
135 Thr Pro Val Val Lys Ala Met Trp Arg Glu Ala Lys Glu Cys Ile Tyr
136 350      355      360      365
138 gtg gaa ccg gac agg caa ggt gag aag aaa ggt gtg ttc tgg tac aac 1272
139 Val Glu Pro Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr Asn
140      370      375      380
143 aat aag tta tgaagcaaag aagaaactga acctttctct tctatgattg 1321
144 Asn Lys Leu
146 tctttgttta agaagctatg tttctgtttc aataatctta attatccatt ttgttgtgtt 1381
148 ttctgacatt ttggctaaaa ttatgtgatg ttggaagtta gtgtctaaaa aaaaaaaaaa 1441
150 aaaaaaaaaa aaaaaaaaaa aaa 1464
153 <210> SEQ ID NO: 2
154 <211> LENGTH: 384
155 <212> TYPE: PRT
156 <213> ORGANISM: Brassica napus
158 <400> SEQUENCE: 2
159 Met Gly Ala Gly Gly Arg Met Gln Val Ser Pro Pro Ser Lys Lys Ser
160 1 5 10 15
162 Glu Thr Asp Asn Ile Lys Arg Val Pro Cys Glu Thr Pro Pro Phe Thr
163 20 25 30
165 Val Gly Glu Leu Lys Lys Ala Ile Pro Pro His Cys Phe Lys Arg Ser
166 35 40 45
168 Ile Pro Arg Ser Phe Ser Tyr Leu Ile Trp Asp Ile Ile Ile Ala Ser
169 50 55 60
171 Cys Phe Tyr Tyr Val Ala Thr Thr Tyr Phe Pro Leu Leu Pro His Pro
172 65 70 75 80
174 Leu Ser Tyr Phe Ala Trp Pro Leu Tyr Trp Ala Cys Gln Gly Cys Val
175 85 90 95
177 Leu Thr Gly Val Trp Val Ile Ala His Glu Cys Gly His His Ala Phe
178 100 105 110
180 Ser Asp Tyr Gln Trp Leu Asp Asp Thr Val Gly Leu Ile Phe His Ser
181 115 120 125
183 Phe Leu Leu Val Pro Tyr Phe Ser Trp Lys Tyr Ser His Arg Arg His
184 130 135 140
186 His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys
187 145 150 155 160
189 Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu
190 165 170 175
192 Gly Arg Thr Val Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu
193 180 185 190
195 Tyr Leu Ala Phe Asn Val Ser Gly Arg Pro Tyr Asp Gly Gly Phe Ala
196 195 200 205
198 Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp Arg Glu Arg Leu
199 210 215 220
201 Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys Tyr Gly Leu
202 225 230 235 240
204 Tyr Arg Tyr Ala Ala Val Gln Gly Val Ala Ser Met Val Cys Phe Tyr
205 245 250 255

```

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DATE: 04/14/2005

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Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\04142005\I643579A.raw

207 Gly Val Pro Leu Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr  
 208 260 265 270  
 210 Leu Gln His Thr His Pro Ser Leu Pro His Tyr Asp Ser Ser Glu Trp  
 211 275 280 285  
 213 Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Asp Tyr Gly Ile  
 214 290 295 300  
 216 Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His  
 217 305 310 315 320  
 219 Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala Thr Lys Ala  
 220 325 330 335  
 222 Ile Lys Pro Ile Leu Gly Glu Tyr Tyr Gln Phe Asp Gly Thr Pro Val  
 223 340 345 350  
 225 Val Lys Ala Met Trp Arg Glu Ala Lys Glu Cys Ile Tyr Val Glu Pro  
 226 355 360 365  
 228 Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr Asn Asn Lys Leu  
 229 370 375 380

232 &lt;210&gt; SEQ ID NO: 3

233 &lt;211&gt; LENGTH: 1155

234 &lt;212&gt; TYPE: DNA

235 &lt;213&gt; ORGANISM: Brassica napus

237 &lt;220&gt; FEATURE:

238 &lt;221&gt; NAME/KEY: CDS

239 &lt;222&gt; LOCATION: (1)..(1152)

241 &lt;400&gt; SEQUENCE: 3

C--> 242 atg ggt gca ggt gga aga atg caa gtg tct cct ccc tcc aaa aag tct 48  
 243 Met Gly Ala Gly Gly Arg Met Gln Val Ser Pro Pro Ser Lys Lys Ser  
 244 1 5 10 15  
 246 gaa acc gac aac atc aag cgc gta ccc tgc gag aca ccg ccc ttc act 96  
 247 Glu Thr Asp Asn Ile Lys Arg Val Pro Cys Glu Thr Pro Pro Phe Thr  
 248 20 25 30  
 250 gtc gga gaa ctc aag aaa gca atc cca ccg cac tgt ttc aaa cgc tcg 144  
 251 Val Gly Glu Leu Lys Lys Ala Ile Pro Pro His Cys Phe Lys Arg Ser  
 252 35 40 45  
 254 atc cct cgc tct ttc tcc tac ctc atc tgg gac atc atc ata gcc tcc 192  
 255 Ile Pro Arg Ser Phe Ser Tyr Leu Ile Trp Asp Ile Ile Ala Ser  
 256 50 55 60  
 258 tgc ttc tac tac gtc gcc acc act tac ttc cct ctc ctc cct cac cct 240  
 259 Cys Phe Tyr Tyr Val Ala Thr Thr Tyr Phe Pro Leu Leu Pro His Pro  
 260 65 70 75 80  
 262 ctc tcc tac ttc gcc tgg cct ctc tac tgg gcc tgc cag ggc tgc gtc 288  
 263 Leu Ser Tyr Phe Ala Trp Pro Leu Tyr Trp Ala Cys Gln Gly Cys Val  
 264 85 90 95  
 266 cta acc ggc gtc tgg gtc ata gcc cac aag tgc ggc cac cac gcc ttc 336  
 267 Leu Thr Gly Val Trp Val Ile Ala His Lys Cys Gly His His Ala Phe  
 268 100 105 110  
 270 agc gac tac cag tgg ctg gac gac acc gtc ggc ctc atc ttc cac tcc 384  
 271 Ser Asp Tyr Gln Trp Leu Asp Asp Thr Val Gly Leu Ile Phe His Ser  
 272 115 120 125  
 274 ttc ctc ctc gtc cct tac ttc tcc tgg aag tac agt cat cga cgc cac 432

## RAW SEQUENCE LISTING

DATE: 04/14/2005

PATENT APPLICATION: US/09/643,579A

TIME: 11:19:51

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\04142005\I643579A.raw

```

275 Phe Leu Leu Val Pro Tyr Phe Ser Trp Lys Tyr Ser His Arg Arg His
276      130      135      140
278 cat tcc aac act ggc tcc ctg gag aga gac gaa gtg ttt gtc ccc aag 480
279 His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe Val Pro Lys
280 145      150      155      160
282 aag aag tca gac atc aag tgg tac ggc aag tac ctg aac aac cct ttg 528
283 Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn Asn Pro Leu
284      165      170      175
286 gga cgc acc gtg atg tta acg gtt cag ttc act ctg ggc tgg cct ttg 576
287 Gly Arg Thr Val Met Leu Thr Val Gln Phe Thr Leu Gly Trp Pro Leu
288      180      185      190
290 tac tta gcc ttc aac gtc tcg ggg aga cct tac gac ggc ggc ttc gct 624
291 Tyr Leu Ala Phe Asn Val Ser Gly Arg Pro Tyr Asp Gly Gly Phe Ala
292      195      200      205
294 tgc cat ttc cac ccc aac gct ccc atc tac aac gac cgc gag cgt ctg 672
295 Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp Arg Glu Arg Leu
296      210      215      220
298 cag ata tac atc tcc gac gct ggc atc ctg gcc gtc tgc tac ggt ctg 720
299 Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys Tyr Gly Leu
300 225      230      235      240
302 tac cgc tac gct gct gtc caa gga gtt gcc tcg atg gtc tgc ttc tac 768
303 Tyr Arg Tyr Ala Ala Val Gln Gly Val Ala Ser Met Val Cys Phe Tyr
304      245      250      255
306 gga gtt ccg ctt ctg att gtc aat ggg ttc tta gtt ttg atc act tac 816
307 Gly Val Pro Leu Leu Ile Val Asn Gly Phe Leu Val Leu Ile Thr Tyr
308      260      265      270
310 ttg cag cac acg cat cct tcc ctg cct cac tac gat tcg tcc gag tgg 864
311 Leu Gln His Thr His Pro Ser Leu Pro His Tyr Asp Ser Ser Glu Trp
312      275      280      285
314 gat tgg ttc agg gga gct ttg gcc acc gtt gac aga gac tac gga atc 912
315 Asp Trp Phe Arg Gly Ala Leu Ala Thr Val Asp Arg Asp Tyr Gly Ile
316      290      295      300
318 ttg aac aag gtc ttc cac aat atc acg gac acg cac gtg gcg cat cac 960
319 Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val Ala His His
320 305      310      315      320
322 ctg ttc tcc acc atg ccg cat tat cat gcg atg gaa gct acc aag gcg 1008
323 Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala Thr Lys Ala
324      325      330      335
326 ata aag ccg ata ctg gga gag tat tat cag ttc gat ggg acg ccg gtg 1056
327 Ile Lys Pro Ile Leu Gly Glu Tyr Tyr Gln Phe Asp Gly Thr Pro Val
328      340      345      350
330 gtt aag gcg atg tgg agg gag gcg aag gag tgt atc tat gtg gaa ccg 1104
331 Val Lys Ala Met Trp Arg Glu Ala Lys Glu Cys Ile Tyr Val Glu Pro
332      355      360      365
334 gac agg caa ggt gag aag aaa ggt gtg ttc tgg tac aac aat aag tta t 1153
335 Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr Asn Asn Lys Leu
336      370      375      380
338 ga 1155
341 <210> SEQ ID NO: 4

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/643,579A

DATE: 04/14/2005  
TIME: 11:19:52

Input Set : A:\PTO.AMC.txt  
Output Set: N:\CRF4\04142005\I643579A.raw

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:17; Xaa Pos. 2,4  
Seq#:20; Xaa Pos. 4  
Seq#:21; Xaa Pos. 3  
Seq#:25; Xaa Pos. 1,3  
Seq#:28; Xaa Pos. 1  
Seq#:31; Xaa Pos. 2,3  
Seq#:34; Xaa Pos. 4  
Seq#:37; Xaa Pos. 1,5  
Seq#:40; Xaa Pos. 3  
Seq#:41; Xaa Pos. 3  
Seq#:43; Xaa Pos. 1,3,5  
Seq#:46; Xaa Pos. 2  
Seq#:49; Xaa Pos. 4  
Seq#:52; Xaa Pos. 5,6,7

**Invalid Line Length:**

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:10; Line(s) 809



## VERIFICATION SUMMARY

DATE: 04/14/2005

PATENT APPLICATION: US/09/643,579A

TIME: 11:19:52

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\04142005\I643579A.raw

L:40 M:112 C: (48) String data converted to lower case,  
M:112 Repeated in SeqNo=1  
L:242 M:112 C: (48) String data converted to lower case,  
M:112 Repeated in SeqNo=3  
L:431 M:112 C: (48) String data converted to lower case,  
M:112 Repeated in SeqNo=5  
L:618 M:112 C: (48) String data converted to lower case,  
M:112 Repeated in SeqNo=7  
L:873 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:877 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17  
L:881 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17  
L:882 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0  
L:918 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:922 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20  
L:923 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0  
L:934 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:938 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21  
L:939 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0  
L:986 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:990 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:25  
L:994 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:25  
L:995 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0  
L:1030 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1034 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:28  
L:1035 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0  
L:1070 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1074 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:31  
L:1078 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:31  
L:1079 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0  
L:1114 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1118 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:34  
L:1119 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0  
L:1154 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1158 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:37  
L:1162 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:37  
L:1163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0  
L:1198 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1202 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:40  
L:1203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0  
L:1214 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1218 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:41  
L:1219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0  
L:1242 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1246 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43  
L:1250 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43  
L:1254 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43  
L:1255 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0  
L:1290 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!

## VERIFICATION SUMMARY

DATE: 04/14/2005

PATENT APPLICATION: US/09/643,579A

TIME: 11:19:52

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\04142005\I643579A.raw

L:1294 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:46  
L:1295 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0  
L:1330 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1334 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:49  
L:1335 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0  
L:1370 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1374 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:52  
L:1378 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:52  
L:1382 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:52  
L:1383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52 after pos.:0



IFW16

## RAW SEQUENCE LISTING

DATE: 04/12/2005

PATENT APPLICATION: US/09/643,579A

TIME: 12:11:40

Input Set : A:\07148-025003.txt

Output Set: N:\CRF4\04122005\I643579A.raw

4 <110> APPLICANT: Broglie, Richard Martin  
 5 DeBonte, Lorin Roger  
 6 Hitz, William Dean  
 7 Miao, Guo-Hua  
 8 Reiter, Robert Stefan  
 10 <120> TITLE OF INVENTION: Methods For Increasing Oleic Acid  
 11 Content In Seeds From Transgenic Plants Containing A Mutant  
 12 Delta 12 Desaturase  
 14 <130> FILE REFERENCE: 07148-025003  
 16 <140> CURRENT APPLICATION NUMBER: US 09/643,579A  
 17 <141> CURRENT FILING DATE: 2000-08-22  
 19 <150> PRIOR APPLICATION NUMBER: US 09/232,948  
 20 <151> PRIOR FILING DATE: 1999-01-19  
 22 <150> PRIOR APPLICATION NUMBER: US 08/728,025  
 23 <151> PRIOR FILING DATE: 1996-10-09  
 25 <160> NUMBER OF SEQ ID NOS: 58  
 27 <170> SOFTWARE: FastSEQ for Windows Version 4.0

**Does Not Comply  
 Corrected Diskette Needed**

## ERRORED SEQUENCES

30 <210> SEQ ID NO: 1  
 31 <211> LENGTH: 1464  
 32 <212> TYPE: DNA  
 33 <213> ORGANISM: Brassica napus  
 35 <220> FEATURE:  
 36 <221> NAME/KEY: CDS  
 37 <222> LOCATION: (130)..(1281)  
 39 <400> SEQUENCE: 1

P.3

C--> 40 ggcacgagct cgtgccgaat tcggcacgag aggagacaga gagagagttt gaggaggagc 60  
 42 ttcttcgttag ggttcacgtt tattaacggt aaatcttcat cccccctac gtcagccagc 120  
 44 tcaagaaac atg ggt gca ggt gga aga atg caa gtg tct cct ccc tcc 168  
 45 Met Gly Ala Gly Gly Arg Met Gln Val Ser Pro Pro Ser  
 46 1 5 10  
 48 aaa aag tct gaa acc gac aac atc aag cgc gta ccc tgc gag aca ccg 216  
 49 Lys Lys Ser Glu Thr Asp Asn Ile Lys Arg Val Pro Cys Glu Thr Pro  
 50 15 20 25  
 52 ccc ttc act gtc gga gaa ctc aag aaa gca atc cca ccg cac tgt ttc 264  
 53 Pro Phe Thr Val Gly Glu Leu Lys Lys Ala Ile Pro Pro His Cys Phe  
 54 30 35 40 45  
 56 aaa cgc tcg atc cct cgc tct ttc tcc tac atc tgg gac atc atc 312  
 57 Lys Arg Ser Ile Pro Arg Ser Phe Ser Tyr Leu Ile Trp Asp Ile Ile  
 58 50 55 60

## RAW SEQUENCE LISTING

DATE: 04/12/2005

PATENT APPLICATION: US/09/643,579A

TIME: 12:11:40

Input Set : A:\07148-025003.txt

Output Set: N:\CRF4\04122005\I643579A.raw

```

60 ata gcc tcc tgc ttc tac tac gtc gcc acc act tac ttc cct ctc ctc 360
61 Ile Ala Ser Cys Phe Tyr Tyr Val Ala Thr Thr Tyr Phe Pro Leu Leu
62          65          70          75
64 cct cac cct ctc tcc tac ttc gcc tgg cct ctc tac tgg gcc tgc cag 408
65 Pro His Pro Leu Ser Tyr Phe Ala Trp Pro Leu Tyr Trp Ala Cys Gln
66          80          85          90
68 ggc tgc gtc cta acc ggc gtc tgg gtc ata gcc cac gag tgc ggc cac 456
69 Gly Cys Val Leu Thr Gly Val Trp Val Ile Ala His Glu Cys Gly His
70          95          100          105
72 cac gcc ttc agc gac tac cag tgg ctg gac gac acc gtc ggc ctc atc 504
73 His Ala Phe Ser Asp Tyr Gln Trp Leu Asp Asp Thr Val Gly Leu Ile
74 110          115          120          125
76 ttc cac tcc ttc ctc ctc gtc cct tac ttc tcc tgg aag tac agt cat 552
77 Phe His Ser Phe Leu Val Pro Tyr Phe Ser Trp Lys Tyr Ser His
78          130          135          140
80 cga cgc cac cat tcc aac act ggc tcc ctc gag aga gac gaa gtg ttt 600
81 Arg Arg His His Ser Asn Thr Gly Ser Leu Glu Arg Asp Glu Val Phe
82          145          150          155
86 gtc ccc aag aag aag tca gac atc aag tgg tac ggc aag tac ctc aac 648
87 Val Pro Lys Lys Lys Ser Asp Ile Lys Trp Tyr Gly Lys Tyr Leu Asn
88          160          165          170
90 aac cct ttg gga cgc acc gtg atg tta acg gtt cag ttc act ctc ggc 696
91 Asn Pro Leu Gly Arg Thr Val Met Leu Thr Val Gln Phe Thr Leu Gly
92          175          180          185
94 tgg cct ttg tac tta gcc ttc aac gtc tcg ggg aga cct tac gac ggc 744
95 Trp Pro Leu Tyr Leu Ala Phe Asn Val Ser Gly Arg Pro Tyr Asp Gly
96 190          195          200          205
98 ggc ttc gct tgc cat ttc cac ccc aac gct ccc atc tac aac gac cgt 792
99 Gly Phe Ala Cys His Phe His Pro Asn Ala Pro Ile Tyr Asn Asp Arg
100          210          215          220
102 gag cgt ctc cag ata tac atc tcc gac gct ggc atc ctc gcc gtc tgc 840
103 Glu Arg Leu Gln Ile Tyr Ile Ser Asp Ala Gly Ile Leu Ala Val Cys
104          225          230          235
106 tac ggt ctc tac cgc tac gct gct gtc caa gga gtt gcc tcg atg gtc 888
107 Tyr Gly Leu Tyr Arg Tyr Ala Ala Val Gln Gly Val Ala Ser Met Val
108          240          245          250
110 tgc ttc tac gga gtt cct ctt ctg att gtc aac ggg ttc tta gtt ttg 936
111 Cys Phe Tyr Gly Val Pro Leu Leu Ile Val Asn Gly Phe Leu Val Leu
112          255          260          265
114 atc act tac ttg cag cac acg cat cct tcc ctg cct cac tat gac tcg 984
115 Ile Thr Tyr Leu Gln His Thr His Pro Ser Leu Pro His Tyr Asp Ser
116 270          275          280          285
118 tct gag tgg gat tgg ttg agg gga gct ttg gcc acc gtt gac aga gac 1032
119 Ser Glu Trp Asp Trp Leu Arg Gly Ala Leu Ala Thr Val Asp Arg Asp
120          290          295          300
122 tac gga atc ttg aac aag gtc ttc cac aat atc acg gac acg cac gtg 1080
123 Tyr Gly Ile Leu Asn Lys Val Phe His Asn Ile Thr Asp Thr His Val
124          305          310          315
126 gcg cat cac ctg ttc tcg acc atg ccg cat tat cat gcg atg gaa gct 1128

```

## RAW SEQUENCE LISTING

DATE: 04/12/2005

PATENT APPLICATION: US/09/643,579A

TIME: 12:11:40

Input Set : A:\07148-025003.txt

Output Set: N:\CRF4\04122005\I643579A.raw

```

127 Ala His His Leu Phe Ser Thr Met Pro His Tyr His Ala Met Glu Ala
128          320          325          330
E--> 130 acg aag gcg ata aag ccg ata ctg gga gag tat tat cag ttc gat ggg 1178 1176
131 Thr Lys Ala Ile Lys Pro Ile Leu Gly Glu Tyr Tyr Gln Phe Asp Gly
132          335          340          345
134 acg ccg gtg gtt aag gcg atg tgg agg gag gcg aag gag tgt atc tat 1224
135 Thr Pro Val Val Lys Ala Met Trp Arg Glu Ala Lys Glu Cys Ile Tyr
136 350          355          360          365
138 gtg gaa ccg gac agg caa ggt gag aag aaa ggt gtg ttc tgg tac aac 1272
139 Val Glu Pro Asp Arg Gln Gly Glu Lys Lys Gly Val Phe Trp Tyr Asn
140          370          375          380
143 aat aag tta tgaagcaaag aagaaactga acctttctct tctatgattg 1321
144 Asn Lys Leu
146 tctttgttta agaagctatg tttctgtttc aataatctta attatccatt ttgttgtgtt 1381
148 ttctgacatt ttggctaaaa ttatgtgatg ttggaagtta gtgtctaaaa aaaaaaaaaa 1441
150 aaaaaaaaaa aaaaaaaaaa aaa 1464

```

RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 04/12/2005  
PATENT APPLICATION:    US/09/643,579A      TIME: 12:11:42

Input Set : A:\07148-025003.txt  
Output Set: N:\CRF4\04122005\I643579A.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:10; Line(s) 809

## VERIFICATION SUMMARY

DATE: 04/12/2005

PATENT APPLICATION: US/09/643,579A

TIME: 12:11:42

Input Set : A:\07148-025003.txt

Output Set: N:\CRF4\04122005\I643579A.raw

L:40 M:112 C: (48) String data converted to lower case,  
M:112 Repeated in SeqNo=1  
L:130 M:254 E: No. of Bases conflict, LENGTH:Input:1178 Counted:1176 SEQ:1  
L:242 M:112 C: (48) String data converted to lower case,  
M:112 Repeated in SeqNo=3  
L:431 M:112 C: (48) String data converted to lower case,  
M:112 Repeated in SeqNo=5  
L:618 M:112 C: (48) String data converted to lower case,  
M:112 Repeated in SeqNo=7  
L:873 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:877 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17  
L:881 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17  
L:882 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:0  
L:918 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:922 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20  
L:923 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0  
L:934 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:938 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21  
L:939 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0  
L:986 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:990 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:25  
L:994 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:25  
L:995 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:25 after pos.:0  
L:1030 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1034 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:28  
L:1035 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0  
L:1070 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1074 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:31  
L:1078 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:31  
L:1079 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0  
L:1114 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1118 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:34  
L:1119 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0  
L:1154 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1158 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:37  
L:1162 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:37  
L:1163 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0  
L:1198 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1202 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:40  
L:1203 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0  
L:1214 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1218 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:41  
L:1219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0  
L:1242 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1246 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43  
L:1250 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43  
L:1254 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:43  
L:1255 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0

## VERIFICATION SUMMARY

DATE: 04/12/2005

PATENT APPLICATION: US/09/643,579A

TIME: 12:11:42

Input Set : A:\07148-025003.txt

Output Set: N:\CRF4\04122005\I643579A.raw

L:1290 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1294 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:46  
L:1295 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0  
L:1330 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1334 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:49  
L:1335 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0  
L:1370 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:1374 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:52  
L:1378 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:52  
L:1382 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:52  
L:1383 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52 after pos.:0